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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,210

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Toshiaki Nakanishi

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EXAMINER

TRINH, TAN H

ART UNIT

PAPER NUMBER

2618

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/781,210	<b>Applicant(s)</b> NAKANISHI, TOSHIAKI	
	<b>Examiner</b> TAN TRINH	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10-10-2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keskitalo (U.S. Patent No. 6,345,188) in view of Myer (U.S. Patent No. 5,870,681) further in view of Kitakado (U.S. Pub. No. 2002/0032015).

Regarding claims 1, 3 and 4, Keskitalo teaches a base station (100) (see figs. 1, base station 100), which communicates with a radio terminal (102) (see fig. 1, base station 100, communication with radio terminal 102), comprising: an adaptive antenna (see fig. 3, col. 6, lines 37-67); a receiving condition acquisition portion for acquiring a signal from the radio terminal concerning a quality of reception of the radio terminal (see fig. 1 and 4, col. 6, lines 29-36, and col. 7, lines 54-col. 8, lines 9); and a directivity control portion for controlling the directivity of the adaptive antenna in response to the quality of reception of the radio terminal (see fig. 1 and 4, col. 7, lines 1-col. 8, lines 15).

Still regarding claims 1 and 3, Keskitalo teaches a base station (100) (see figs. 1, base station 100), which communicates with a radio terminal (102) (see fig. 1, base station 100, communication with radio terminal 102), comprising: an adaptive antenna (see fig. 3, col. 6, lines 37-67), and directivity control portion for controlling the directivity of the adaptive antenna

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in response to the quality of reception of the radio terminal (see fig. 1 and 4, col. 7, lines 1-col. 8, lines 15). But Keskitalo does not mention the newly added limitation of directivity control portion for controlling the directivity of the adaptive antenna based on the information indicative of the receiving condition of the signal in the radio terminal and the transmitting portion transmits the signal *while changing directivity*. However, such teaching is taught by Myer and Kitakado: (see below).

Myer teaches a base station (111-114) (see fig. 1), which communicates with a radio terminal (131-135) (see fig. 1), comprising: an adaptive antenna (300 or adaptive array antenna) (see fig. 3); a transmitting portion for transmitting a signal (see col. 2, lines 15-37). In this case, the switching circuit is selects one of antenna to transmitting signals. A receiving condition acquisition portion for acquiring from a radio terminal information indicative of the receiving condition of the signal in a radio terminal (see col. 2, lines 15-37). In this case, the receiving condition of the signal strength acquiring from a radio terminal, and each receiver provides signal strength information indicating a signal strength of received electromagnetic signals. And a directivity control (403 and 507) portion for controlling the directivity of the adaptive antenna (300) based on the information indicative of the receiving condition of the signal in the radio terminal (fig. 3-6 and 7A, col. 2, lines 15-37, and col. 4, lines 1-37, and col. 5, lines 1-4). Myer teaches the compares of the signal strength signals and determines antenna to select for directivity control base on the information of the comparison. But Myer does not mention the transmitting portion transmits the signal *while changing directivity*.

However, Kitakado teaches the transmitting portion transmits the signal while changing directivity (see fig. 1 and 16, see *transmitting signals to plurality terminals while changing antenna directivity on the real time* on page 3, section [0065]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above combination of the teaching of Keskitalo and Myer with Kitakado, in order to provide the transmission directivity control unit updating the antenna directivity when the transmission signal is transmitted (see suggested by Kitakado on page 3-4, section [0065]).

Regarding claim 2, Keskitalo teaches the directivity control portion sets the to be non-directional (omnidirectional) (see col. 6, lines 37-44, and col. 11, lines 59), until a connection request is received from the radio terminal (see fig. 1 and 4, col. 8, lines 60-65), and controls the directivity of the adaptive antenna based on the acquired signal concerning the receiving condition of the radio terminal after receiving the connection request from the radio terminal (see col. 8, lines 45-65, and col. 10, lines 4-15).

Still regarding claim 2, Keskitalo teaches the directivity control portion sets the to be non-directional (omnidirectional) (see col. 6, lines 37-44, and col. 11, lines 59), until a connection request is received from the radio terminal (see fig. 1 and 4, col. 8, lines 60-65). But Keskitalo does not mention the newly added limitation of: controlling controls the directivity of the adaptive antenna “based on said information indicative of the receiving condition of the signal in the radio terminal upon”. However, This teaching is taught by Myer teaches (see fig. 3-6 and 7A, col. 2, lines 15-37, and col. 4, lines 1-37, and col. 5, lines 1-4). Myer also teaches the

teaches directivity control portion sets the to be non-directional until a connection request is received from the radio terminal (see col. 3, lines 59-col. 4, lines 54, and col. 5, lines 1-4). In this case, when the receiver front end (316) is not receive signal from the radio terminal, the control signal is not control the selection of the antennas, the antenna (300) acting as a non-directional until, and when the receiver front end (316) is receive signal from the radio terminal, and comparator is compares and controller is determines directivity control portion sets the to be directional until and which antenna is going to selected that the antenna directivity for transmitting the signal.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Keskitalo (U.S. Patent No. 6,345,188) in view of Myer (U.S. Patent No. 5,870,681) further in view of Kitakado (U.S. Pub. No. 2002/0032015) and further in view of Ponnekanti (U.S. Pub. No. 2002/0150065).

Regarding claim 5, Keskitalo or Myer teaches a base station (111-114) (see fig. 1), which communicates with a radio terminal (131-135) (see fig. 1), comprising: an adaptive antenna (300 or adaptive array antenna) (see fig. 3); a transmitting portion for transmitting a signal (see col. 2, lines 15-37). In this case, the switching circuit is selects one of antenna to transmitting signals. A receiving condition acquisition portion for acquiring from a radio terminal information indicative of the receiving condition of the signal in a radio terminal (see col. 2, lines 15-37). In this case, the receiving condition of the signal strength acquiring from a radio terminal, and each receiver provides signal strength information indicating a signal strength of received electromagnetic signals. and Kitakado teaches the transmitting portion transmits the signal while changing directivity (see fig. 1 and 16, see *transmitting signals to plurality terminals while changing*

*antenna directivity on the real time* on page 3, section [0065]). But Keskitalo, Myer or Kitakado does not mention the directivity control portion controls the directivity of such adaptive antenna which is used for changing a rate of data transmitted from the base station to the radio terminal the signal used for changing the rate of data acquired from the radio terminal.

However, Ponnekanti teaches the directivity control portion controls the directivity of such adaptive antenna which is used for changing a rate of data transmitted from the base station to the radio terminal the signal used for changing the rate of data acquired from the radio terminal (see figs. 4 -7, page 1, section [0005], and page 5, section [0075] and page 16, section [0252] and sections [0254-0256]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify above teaching of Keskitalo, Keskitalo and Myer with Ponnekanti, in order to provide the quality of the signals received by the mobile unit can be improved without increasing the transmitter power (see suggested by Ponnekanti on page 16, section [0252]).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argue that the reference of Keskitalo does not teaches the receiving condition acquisition portion for acquiring a signal from the radio terminal.

However, the examiner disagree, However, Keskitalo does not teaches the receiving condition acquisition portion for acquiring a signal from the radio terminal. (see fig. 1 and 4, col.

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6, lines 29-36, and col. 7, lines 54-col. 8, lines 58). Examiner added the new reference art for clarifying the limitation of claim with the rejection on new reference. Therefore the new reference is also teaches the limitation of the claim.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(571) 273-8300, (for Technology Center 2600 only)**



*Hand-delivered responses should be brought to the Customer Service Window (now located at the **Randolph Building, 401 Dulany Street, Alexandria, VA 22314**).*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan Trinh whose telephone number is (571) 272-7888. The examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Anderson, Matthew D., can be reached at (571) 272-4177.

The fax phone number for the organization where this application or proceeding is assigned is **(571) 273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh  
Division 2618  
February 1st, 2009

/TAN TRINH/  
Primary Examiner, Art Unit 2618